

A new species of red gum (*Eucalyptus* subser. *Phaeoxyla* Blakely) from central and southern Queensland

M.I.H. Brooker and A.V. Slee

Summary

Brooker, M.I.H. & Slee, A.V. (1994). A new species of red gum (*Eucalyptus* subser. *Phaeoxyla* Blakely) from central and southern Queensland. *Austrobaileya* 4(2): 265–268. *Eucalyptus ammophila*, a new species from central and southern Queensland is described and notes on its affinities, habitat, distribution and conservation status are given.

Keywords: Myrtaceae - Queensland, *Eucalyptus ammophila*.

M.I.H. Brooker & A.V. Slee, CSIRO Division of Plant Industry, GPO Box 1600, Canberra, A.C.T. 2601

Eucalyptus ammophila Brooker & Slee, sp. nov. Frutex 'mallee' *Eucalypto exsertae* F. Muell. affinis a qua statura minore, cortice laxo fibroso, foliis juvenilibus latioribus, et habitatione arenacea, et ab *Eucalypto morrisii* R. Baker foliis juvenilibus latioribus, habitatione arenacea et inflorescentiis 7-floribus differt. **Typus:** Queensland. MARANO DISTRICT: Calabah Station, 27°05'S, 146°31'E (corrected), 2 May 1975, M.I.H. Brooker 4899 & D.A. Kleinig (holo: CANB; iso: AD, BRI, MEL, NSW).

Mallee to 6 m tall with grey or grey-brown, fibrous rough bark on stems; smooth, whitish on branches. Seedling leaves petiolate, remaining opposite for 3 or 4 pairs; later leaves alternate, lanceolate, to 11 × 2.5 cm. Adult leaves petiolate, alternate, lanceolate, 9–13 × 1.5–2 cm, concolorous, dull blue-green, becoming green at maturity; reticulation not dense, with somewhat obscure tertiary venation; oil glands numerous, small, appearing within the areoles. Inflorescences axillary, unbranched; peduncles stout, angular, to 1.5 cm long, with 7(–11) buds. Buds pedicellate, broadly fusiform to ovoid, to 0.9 × 0.5 cm, with outer operculum shed early in development leaving prominent scar. Stamens erect in bud. Anthers versatile, dorsifixed, oblong, opening by longitudinal slits. Ovary semi-inferior; placentae with 6 vertical rows of ovules, middle two rows often separated

at about the centre exposing the placenta. Fruit on stout, usually 4-sided pedicels (0.2–0.6 cm long), to 0.6 × 0.9 cm (hypanthium only), with three distinct features, the hemispherical hypanthium, the broad steeply ascending disc, and the 4 or 5 broad, strongly exerted valves. Seed black, cuneate and angular, with pitted seedcoat and toothed edges. **Figs 1 & 2.**

Specimens examined: Queensland. MITCHELL DISTRICT: Between Yalleroi and Jericho, Jul 1934, *Blake* 6776 (BRI, CANB); East of Lochnagar, Dec 1935, *Blake* 10400 (BRI, CANB); 20.4 km SSW of Jericho on Blackall road, Aug 1976, *Kleinig* 288 (CANB); 44 km east of Barcardine, Dec 1982, *Brooker* 7861 (CANB); Joycedale, (23°45'S, 146°00'E), Nov 1968, *Pedley* 2817; 45 km east of Barcardine towards Jericho, 23°33'S, 145°43'E, Oct 1993, *Slee* 3358 (AD, BRI, CANB, MEL, NSW). MARANO DISTRICT: Type locality, May 1975, *Brooker* 4898 & *Kleinig* (AD, BRI, CANB, MEL, NSW); 68.9 km south-east of Charleville on Bollon road, (26°53'S, 146°36'E), Nov 1989, *Brooker* 10366 & *Slee* (BRI, CANB, MEL, NSW); 71 km from Charleville to Bollon, (26°50'S, 146°37'E), Jun 1990, *Brooker* 10489 & *Kleinig* (AD, BRI, CANB, MEL, NSW); 70 km SE of Charleville on Bollon Road, Sep 1992, *Noble* s.n. (CANB); Calabah Station, Oct 1993, *Slee* 3282 (BRI, CANB, MEL, NSW); 144 km north of Balonne Highway t/o west of Bollon to Charleville (sic), 26°54'S, 146°34'E, Mar 1981, *Turner & Johnston* 438 (CANB, NSW). **Cultivated.** seedling (CANB) grown from *Bean* 435 (142 km from Balonne towards Charleville, May 1986, <BRI>).

Distribution and habitat: Known from several red or orange sandplains, from south and south-east of Charleville on Calabah Station and eastwards to the Charleville-Bollon road, and in the Lochnagar, Yalleroi and Jericho area north-east of Blackall in central Queensland. **Map 1.**

Notes: *E. ammophila* belongs to the red gums (ser. *Exsertae* Blakely) whose general

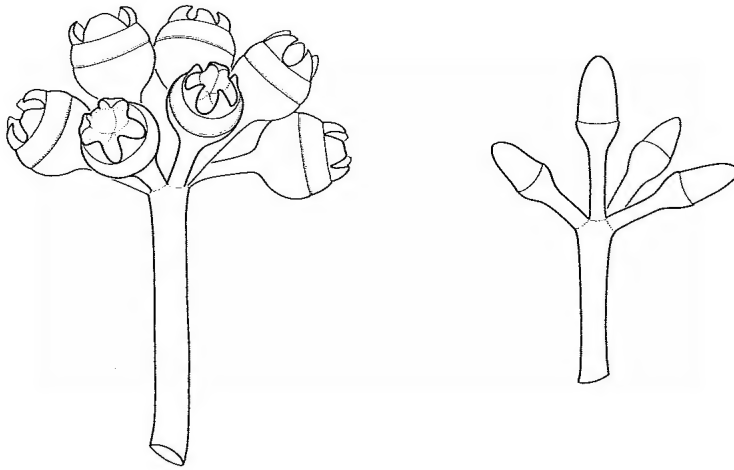


Fig. 1. *Eucalyptus ammophila*: fruit $\times 1\frac{1}{2}$ (M.I.H. Brooker 4899), and buds $\times 1\frac{1}{2}$ (M.I.H. Brooker 10366) (some buds aborted from inflorescence).

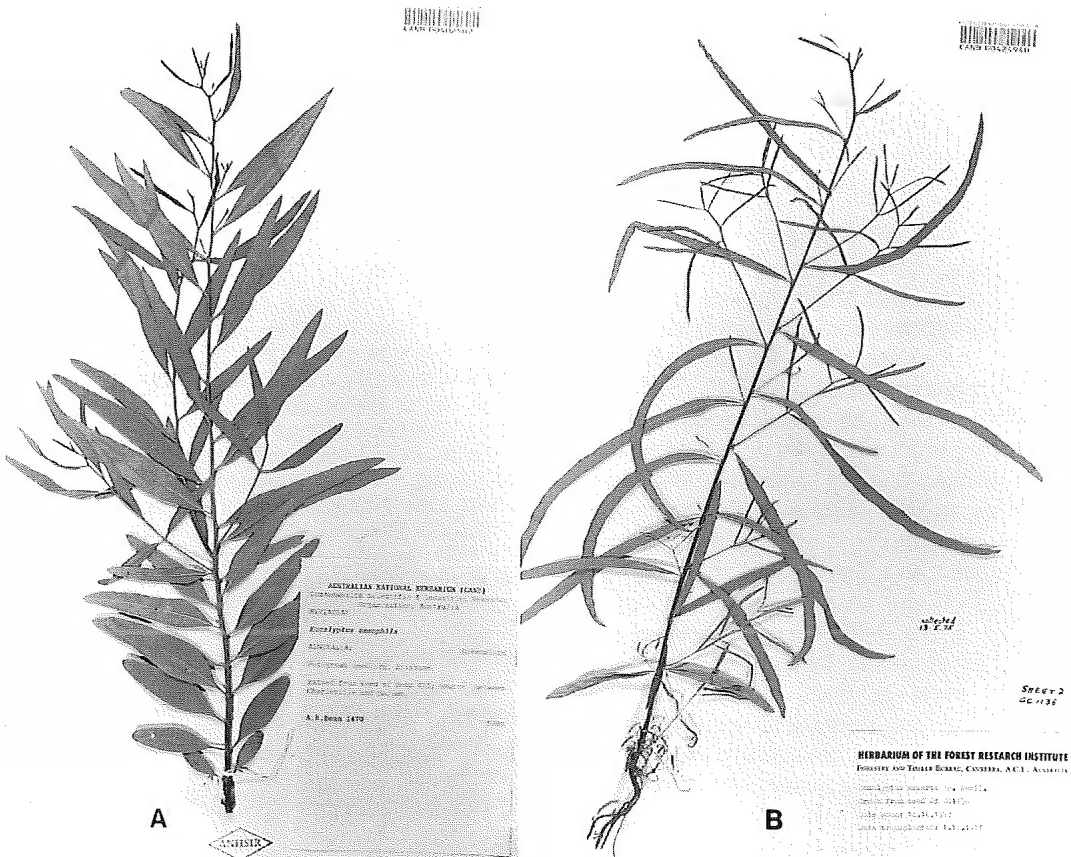


Fig. 2. Seedlings. A. *E. ammophila* (Bean 1470) ; B. *E. exserta* (seedling of Chippendale 1136).

characteristics were given in Boland *et al.* (1992). We assign the new species to the subseries *Phaeoxyla* Blakely. We consider that Blakely's four subseries (1934) are the natural division of the series although this further classification is obscured in Chippendale (1988) where series are the only infra-generic category used.

E. ammophila is first known to have been collected in 1934. The collection was by S.T. Blake (Blake 6776 above) who elicited (*in litt.*) comments from W.F. Blakely on its identity. Blakely, in reply, considered it to be *E. exserta* rather than *E. morrisii*, apparently the only two species in contention in his mind. *E. exserta* is a widespread and well known species in eastern Queensland and it is likely that Blake would have been quite familiar with it and that he did not consider the specimen from 'between Yalleroi and Jericho' to be *E. exserta*.

Our research supports Blake's opinion, as the species differs from *E. exserta* clearly in the habitat of sandplain versus stony hills and rises. The seedlings of the new species have wider leaves (to 2.5 cm wide compared with about 1 cm in *E. exserta*). It is difficult to assess bark characteristics from herbarium label data, but many labels for specimens of *E. exserta* report that the rough bark occurs on the main branches but that the ultimate branchlets are smooth. Rough bark in *E. ammophila* rarely extends to the branches. The fruit of *E. ammophila* are generally larger than those of *E. exserta* although published dimensions of the latter (for example Boland *et al.*) are likely to be inflated by the inclusion of data from *E. ammophila* specimens.

E. ammophila is distinguished from *E. morrisii*, which is endemic to New South Wales, by the 7-versus 3-flowered inflorescences of the latter, longer pedicels and the sandplain versus rocky habitat.

E. ammophila is the only red gum confined to the red, yellow or orange sandplains of central Queensland where it occurs with characteristic associated species, viz. *Grevillea juncifolia* Hook., *Triodia mitchellii* Benth.,

Calytrix longiflora (F. Muell.) Benth., *Thryptomene parviflora* (Benth.) Domin and *Xanthorrhoea johnsonii* A. Lee. The habitat is distinguished from that of another red gum of sandy soils, *E. chloroclada*, which has a more easterly distribution and occupies lighter coloured sands in open forests.

The distribution of the new species occurs within that of *E. exserta*, but the two species remain clearly separated by site preferences in this general area, although *E. exserta* occurs as well on sandy coastal plains in much higher rainfall areas of eastern Queensland. Comparisons of the diagnostic characters for *E. ammophila*, *E. exserta* and *E. morrisii* are given in **Table 1**.

Flowering period: Unknown.

Affinities: *E. ammophila* belongs to *E.* subser. *Phaeoxyla* Blakely on account of the black seed, rough bark, narrow juvenile leaves and fruit with stout pedicels, steeply ascending disc and strongly exerted valves.

Conservation status: 3K according to Briggs & Leigh (1988).

Etymology: From the Greek, *amos*, sand, and *phila*, loving.

Acknowledgements

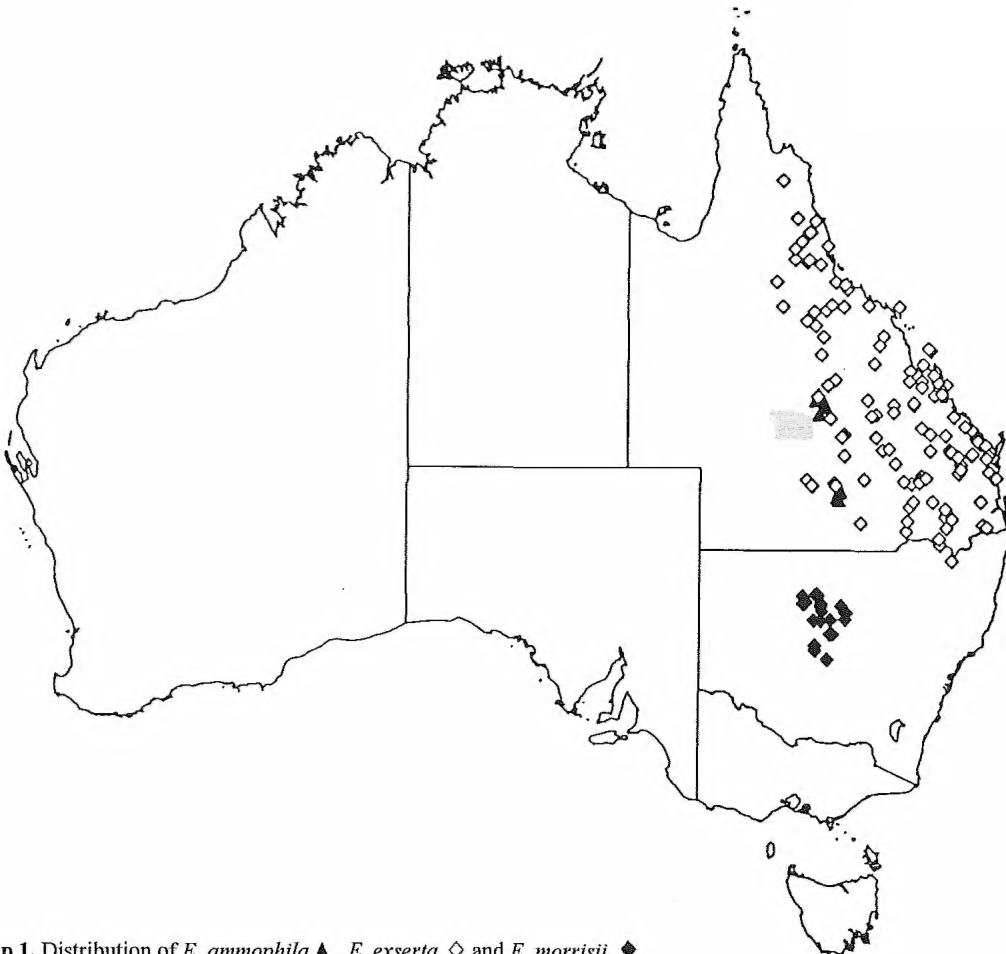
We are grateful to Kevin Thiele for the illustrations of the buds and fruit and to Julie Faulkner for the seedling prints.

References

- BLAKELY, W.F. (1934). *A Key to the Eucalypts*. Sydney: The Worker Trustees.
- BOLAND, D.J., BROOKER, M.I.H., CHIPPENDALE, G.M., HYLAND, B.P.M., JOHNSTON, D.J., KLEINIG, D.A. and TURNER, J.D. (1992). *Forest Trees of Australia*. East Melbourne: CSIRO.
- BRIGGS, J.D. & LEIGH, J.H. (1988). *Rare or Threatened Australian Plants*. Canberra: Australian National Parks and Wildlife Service.
- CHIPPENDALE, G.M. (1988). *Flora of Australia. Volume 19*. Canberra: Australian Government Publishing Service.

Table 1. Comparison of *E. ammophila*, *E. exserta* and *E. morrisii*.

Character	<i>E. ammophila</i>	<i>E. exserta</i>	<i>E. morrisii</i>
Seedling leaves (max.)	lanceolate, 11 × 2.5 cm	linear, 16 × 1.2 cm	linear, 14 × 1.5 cm
Bud number	7 (-11)	7	3
Fruit size (max.) (hypanthium)	0.6 × 0.9 cm	0.4 × 0.7 cm	0.6 × 1.1 cm
Pedicel of fruit	0.2-0.6 cm	0.1-0.5 cm	0-0.1 cm
Habitat	sandplain	stony rise (except eastern coastal sands)	rocky hills

**Map 1.** Distribution of *E. ammophila* ▲, *E. exserta* ◇ and *E. morrisii* ◆.